

### REMARKS

Enclosed herewith is a Substitute Specification in which the specification as filed has been amended in various places to correct typographical and grammatical errors. In addition, the headings have been amended to remove the boldness and underlining.

In support of the above, enclosed herewith is a copy of the specification as filed marked up with the above changes.

The undersigned attorney asserts that no new matter has been incorporated into the Substitute Specification.

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, the claims have been amended for clarity.

The Examiner has rejected claims 1, 5, 9, 11-13, 15-20 and 24 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,953,005 to Liu in view of U.S. Patent 6,600,874 to Fujita et al. The Examiner has further rejected claim 2 under 35 U.S.C. 103(a) as being unpatentable over Liu in view of Fujita et al., and further in view of U.S. Patent 5,691,494 to Sai et al. Finally, the Examiner has rejected claim 3 under 35 U.S.C. 103(a) as being unpatentable over Liu in view of Fujita et al., and further in view of U.S. Patent 5,648,628 to Ng et al.

Applicants acknowledge that the Examiner has found claims 4, 6-8, 10 and 14 allowable over the prior art of record.

The Liu patent discloses a system and method for on-line multimedia access, in which a Karaoke-type arrangement includes a display and a browser for enabling the arrangement to receive and playback a desired audio file, and to acquire and display visual information associated with the desired audio file in the form of lyrics.

The Fujita et al. patent discloses a method and device for detecting starting and ending points of sound segment in video by obtaining a thresholded envelope of a sound signal waveform, which makes note of time point data.

The subject invention concerns the displaying of visual information related to audio data in synchronism with the playing back of the audio data. Applicants have found that in standard Karaoke equipment where the display device is integrated with the playback device, there usually are no problems incurred in synchronizing the display with the audio playback. However, when the display device is separate from the playback device, the displaying of the visual information is dependent on the particular display device, i.e., for example, the screen size may affect how the visual information needs to be displayed. As such, in order to ensure such synchronization, the subject invention, as claimed in claim 1, includes the limitation "the commencement of playing the desired audio file by the audio playback device and the commencement of the displaying step by the display device are a

function of a signal from the display device". As such, since the display device is separate from the playback device, the display device sends a signal to the playback device to initiate audio playback of the desired file. At the same time as this signal is being generated, the display device commences the process of displaying of the visual information using the timestamp information to synchronize the displayed visual information with the audio signal being played by the separate playback device.

Applicants submit that Liu refers to integrated Karaoke or computer systems wherein the display device and the audio playback device are integrated with one another. Hence, there is no need for the display device to send a signal to the audio playback device to begin playing back the audio data. Rather, the controller in the integrated device controls both the display portion as well as the audio playback portion. Note, for example, col. 3, lines 53-61, where it is indicated that dedicated karaoke terminals play (and display) the songs, or a user's personal computer is used to play (and display) the songs.

The subject invention, as claimed in claim 16, concerns the analysis of audio data in order to generate timestamps identifying segments in the audio data. However, in addition, the subject invention also concerns displaying visual information corresponding to speech occurring in the audio data. To that end, the visual information in the form of text is input and the

timestamps of the audio data, are mapped to the corresponding segments in the visual information, i.e., "assigning the at least one timestamp value to the at least one segment in the visual information such that each segment of the visual information may be displayed synchronously with playing of the corresponding segment in the audio data".

Applicants submit that while Liu discloses a Karaoke-type system which is capable of downloading and displaying lyrics in timed-relation to the playing back of audio files, and while Fujita et al. arguably discloses the analysis of video data for detecting starting and ending points of sound segments, neither Liu nor Fujita et al. disclose or suggest how the detected information in Fujita et al. may be applied to the text forming the visual information.

The Sai et al. patent discloses a centralized system providing Karaoke service and extraneous service to terminals, in which separate Karaoke apparatuses 4 are set up in a plurality of rooms and are interconnected to a central host apparatus 2 via coaxial cable 6. "Each of karaoke apparatuses is provided with a manual input tool in the form of a commander 5 of an infrared remote control type." (col. 3, lines 47-50). Further, at col. 4, lines 15-17, Sai et al. states "The commander has a primary use to input the entry code and a secondary use to input the order code."

The Examiner now states that it would be obvious to implement the Javaoke control of Liu/Fujita et al. via an "infrared signal".

Applicants submit that this is irrelevant to the subject invention. While Sai et al. discloses controlling the Karaoke apparatus with an infrared remote control, this is typical of virtually all consumer electronic audio/video devices. Rather, the subject invention pertains to a display device for displaying visual information coupled to audio data, sends a (infrared) signal to a separate audio playback device for initiating playback of the audio data such that the display of the corresponding visual information is synched with the playing of the audio data.

The Ng et al. patent discloses a cartridge supported Karaoke device which, due to the use of solid state memory cartridges instead of a disk drive and a liquid crystal display instead of a typical cathode ray tube video display, "is battery operated and therefore is housed in a portable configuration." (col. 2, lines 34-39).


Applicant submit, however, that while the Ng et al. device may arguably be handheld, the Ng et al. device is a complete system, and when combined with Liu and Fujita et al., there results a handheld Karaoke system capable of downloading the audio/text files for playing back and displaying. As such, there is no need for, and no disclosure or suggestion of, a display device sending a

signal to a separate audio playback device to start playing back the audio file such that the displaying of the visual information is synchronized with the playing of the audio file.

In view of the above, Applicants believe that the subject invention, as claimed, is not rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-24, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by   
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